

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 387978007WO0	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US04/20338	International filing date (day/month/year) 24 June 2004 (24.06.2004)	Priority date (day/month/year) 25 June 2003 (25.06.2003)	
International Patent Classification (IPC) or national classification and IPC IPC(7): A61K 7/06, 6/00, 31/56 and US Cl.: 424/401, 70.1, 74, 195.1; 514/729, 880, 182			
Applicant GERON CORPORATION			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>4</u> sheets, as follows:</p> <ul style="list-style-type: none"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application 	
Date of submission of the demand 12 July 2005 (12.07.2005)	Date of completion of this report 28 September 2005 (28.09.2005)
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-8300	Authorized officer David Vanek Telephone No. (571) 272-3104

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/20338

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- the international application in the language in which it was filed.
- a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4(a))
 - international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished
- the description:
pages 1-46 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- the claims:
pages NONE as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* 47-50 received by this Authority on 12 July 2005 (12.07.2005)
pages* NONE received by this Authority on _____
- the drawings:
pages 1/8 - 8/8 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, Nos. 25-32 _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to the sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, Nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Form PCT/IPEA/409 (Box No. I) (April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/20338

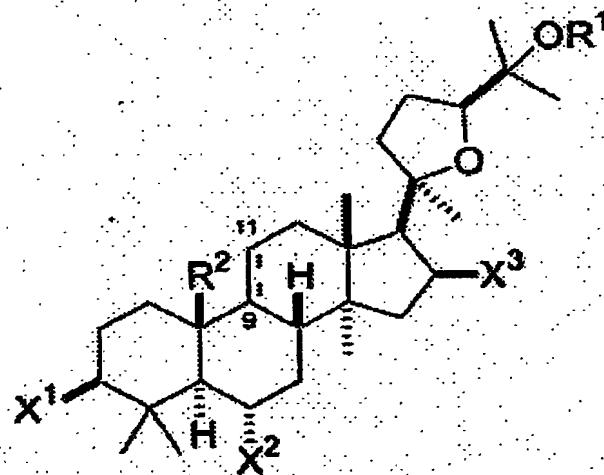
Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-24</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-24</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-24</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-24 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the following a method for conditioning the skin comprising applying the below structure together with an emulsifier, surfactant, thickener, lubricant, preservative, antioxidant, and antimicrobial agent.

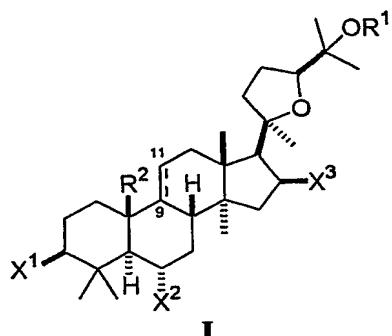


Claims 1 -24 meet the criteria set out in PCT Article 33(4), and thus contain industrial applicability because the subject matter claimed can be made or used in industry.

REAUUS

CLAIMS

1. A method for conditioning the skin, comprising: applying topically to the skin a formulation comprising a compound of formula I:



where:

each of X^1 , X^2 , and X^3 is independently selected from hydroxy, lower alkoxy, lower acyloxy, keto, and a glycoside;

OR^1 is selected from hydroxy, lower alkoxy, lower acyloxy, and a glycoside;

wherein any of the hydroxyl groups on said glycoside may be substituted with a further glycoside, lower alkyl, or lower acyl, such that the compound includes a maximum of three glycosides; and

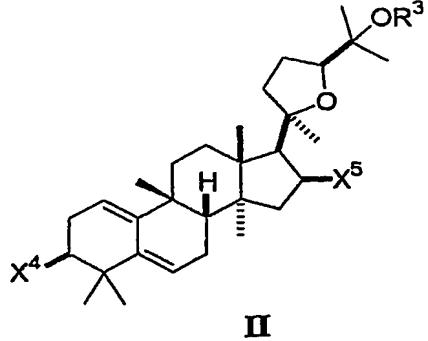
R^2 is methyl and — represents a double bond between carbons 9 and 11; or, R^2 forms, together with carbon 9, a fused cyclopropyl ring, and — represents a single bond between carbons 9 and 11;

and wherein said formulation further comprises an ingredient selected from the group consisting of an emulsifier, a surfactant, a thickener, a skin emollient, and a lubricant, and an ingredient selected from the group consisting of a preservative, an antioxidant, and an antimicrobial agent.

2. The method of claim 1, wherein said compound includes zero, one, or two glycosides, none of which is substituted with a further glycoside.

3. The method of claim 2, wherein said compound includes zero or two glycosides, none of which is substituted with a further glycoside.

4. The method of claim 1, wherein each said glycoside, when present, is of the D configuration.
5. The method of claim 1, wherein R² forms, together with carbon 9, a fused cyclopropyl ring; and — represents a single bond between carbons 9 and 11.
6. The method of claim 2, wherein each of X¹ and X² is independently selected from hydroxy, lower alkoxy, lower acyloxy, and a glycoside, and X³ is selected from hydroxy, lower alkoxy, lower acyloxy, keto, and a glycoside.
7. The method of claim 2, wherein X¹ is OH or a glycoside, each of X² and OR¹ is independently OH or a glycoside, and X³ is OH or keto.
8. The method of claim 2, wherein the compound is selected from astragaloside IV, cycloastragenol, astragenol, astragaloside IV 16-one, cycloastragenol 6-β-D-glucopyranoside, and cycloastragenol 3-β-D-xylopyranoside.
9. The method of claim 8, wherein the compound is selected from astragaloside IV, cycloastragenol, astragenol, and astragaloside IV 16-one.
10. The method of claim 9, wherein said compound is astragaloside IV.
11. A method for conditioning the skin, comprising: applying topically to the skin a formulation comprising a compound of formula II:



where:

each of X^4 and X^5 is independently selected from hydroxy, lower alkoxy, lower acyloxy, keto, and a glycoside, and

OR^3 is selected from hydroxy, lower alkoxy, lower acyloxy, and a glycoside, wherein any of the hydroxyl groups on said glycoside may be substituted with a further glycoside, lower alkyl, or lower acyl, such that the compound includes a maximum of three glycosides.

12. The method of claim 11, wherein said compound includes zero, one, or two glycosides, none of which is substituted with a further glycoside.

13. The method of claim 11, wherein each said glycoside, when present, is of the D configuration.

14. The method of claim 12, wherein each of X^4 and OR^3 is selected from hydroxy, lower alkoxy, lower acyloxy, and a glycoside, and X^5 is selected from hydroxy, lower alkoxy, lower acyloxy, and keto (=O).

15. The method of claim 12, wherein X^4 is OH or a glycoside, and each of X^5 and OR^3 is OH.

16. The method of claim 15, wherein X^4 is OH.

17. The method of claim 1 or 11, wherein the concentration of said compound in said formulation is from 0.01 to 5% (w/v).

18. The method of claim 17, wherein said concentration is from 0.01 to 1% (w/v).

19. The method of claim 1 or 11, wherein the concentration of said compound in said formulation is greater than 0.005% and less than 0.1% (w/v).

20. The method of claim 1 or 11, wherein the formulation further comprises one or more additional ingredients selected from the group consisting of an emulsifier, a thickener, and a skin emollient.

21. The method of claim 20, wherein the formulation comprises one or more ingredients selected from an emulsifier and a skin emollient.
22. The method of claim 21, wherein the formulation comprises a skin emollient.
23. The method of claim 1 or 11, wherein the biological activity of said compound is such that a composition containing the compound at a concentration of 1 $\mu\text{g}/\text{ml}$ or less is effective to produce a telomerase activity at least 25% greater than observed in a vehicle control, as measured in a TRAP assay of keratinocyte or fibroblast cells.
24. The method of claim 1 or 11, wherein the biological activity of said compound is such that a composition containing the compound at a concentration of 1 $\mu\text{g}/\text{ml}$ or less is effective to produce an amount of cell reconnection in a scratch assay of keratinocytes which is at least 25% greater than that seen in untreated or other control cells.